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Abstract :

Aviation Turbine Fuels (ATF) are subjected to strict quality control measures. The percentage of aromatic content in ATF is an important index of its chemical quality. At present, there is considerable interest in the use of ATF with high aromatic content, from the point of view of increased availability of fuels. An experimental programme was carried out to determine the effects of burning a high aromatic fuel (26%) in a typical aircraft gas turbine engine combustor, under stimulated inlet flow conditions. The results obtained were compared with those obtained by burning a conventional low aromatic aviation fuel (18%). The higher aromatic fuel produced significantly higher exhaust soot and flame radiation levels resulting in increased combustor liner metal temperature.